Facilitating Laboratory Test Ordering and Reporting in the Electronic Health Record

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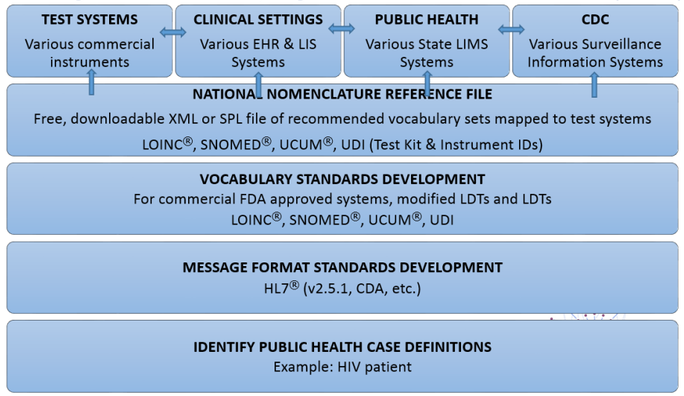
Vision: Achieving Interoperability

"Stretch Goal"

Support full-scale interoperability for laboratory data by providing a single national reference database of recommended vocabulary sets with mapping of test systems to code systems.

Building World-Class Local, Regional & National Surveillance Capability

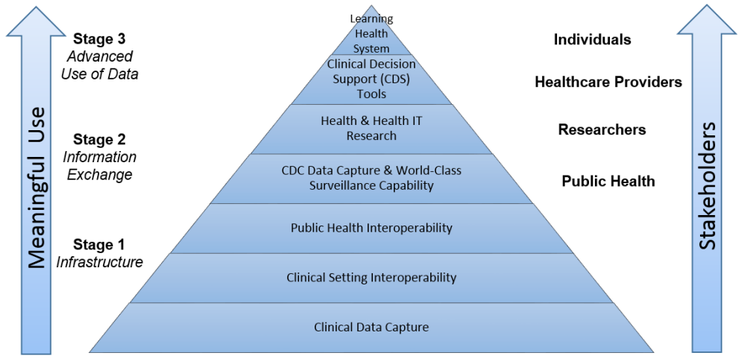


Goal: Patient Safety & Data Integrity

Laboratory data can be distributed rapidly and to numerous users in the healthcare system. The goal of interoperability is to ensure data integrity, or ***trust***, in every electronic transmission, thereby also ensuring laboratory data is provided in a manner to support patient safety and optimized healthcare decision making.

Objectives: Quality Clinical Data Capture and Achieving Meaningful Use

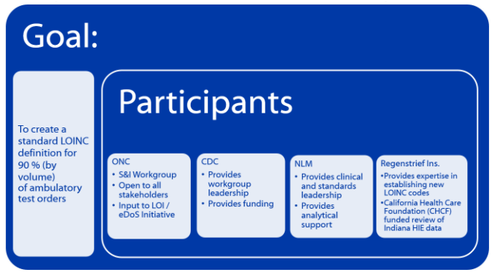
Develop and disseminate code sets to support quality clinical data capture, thereby enabling electronic health record data to be used to inform decision making for individuals, healthcare providers, researchers and public health.



Methods

aLOINC® - Model Example Project

Laboratory Test Order Codes Initiative for Top Ordered Tests



SNOMED CT® - Model Example Project

Specimen attribute coding to fully define the tested specimen

Field	HL7 Name	Consider for coding
SPM-4	Specimen Type	HL70487 SNOMED CT specimen hierarchy
SPM-5	Specimen Type Modifier	SNOMED CT qualifier, morphologic abnormality hierarchy
SPM-6	Specimen Additives	HL70371 SNOMED CT substance, product hierarchy
SPM-7	Specimen Collection Method	HL70488 SNOMED CT procedure hierarchy
SPM-8	Specimen Source Site	SNOMED CT body site, substance, physical object hierarchy
SPM-9	Specimen Source Site Modifier	SNOMED CT qualifier hierarchy

LabHIT's Central Role

Bringing diverse stakeholders together

Results

- aLOINC® order codes will be included in Regenstrief's LOINC Mapping Assistant (RELMA®) tool.
- SNOMED CT® codes are completed and available to fully define specimens.
- Terminology work is resource intensive and voluminous, requiring a long term commitment of resources.
- The long term iterative process to develop health IT terminology can result in duplicative efforts over time and from different stakeholders, nationally and internationally.
- An incremental approach is needed to continue moving each code set toward the vision.

Next Steps

ENGAGEMENT

- Continue promoting health IT opportunities via LabHIT email subscriber database:
  - Relevant federal grant opportunities (CDC, ONC, AHRQ)
  - Association of Pathology Informatics (API) Technical Member category to groom next generation laboratory science SMEs
  - Comment periods on proposed regulations, guidelines, and requests for information
- Facilitate participation of stakeholders with standards organizations, including clinical SMEs, software vendors, manufacturers, and professional organizations

INTEROPERABILITY

- Promote semantic interoperability workshops and guidance for laboratory testing systems in collaboration with FDA, NLM, CMS and ONC
- Support participation and leadership of private industry test system manufacturer funded organizations with an interest in interoperability
- Identify mechanisms to distribute standardized vocabulary for specimen test ordering to EHR vendors, e.g. relational database
- Serve as SMEs on numerous HL7 Initiatives related to laboratory standards
- Promote use of the CLIA standard level LRI Validation Suite by EHR vendors
- Propose a centralized laboratory LOINC® and SNOMED CT® coding process

USABILITY & SAFETY

- Participate on HL7 Laboratory Functional Behaviors Guide Workgroup
- Support NIST's 2016 Usability Workshop, "The Role of Standards in Preventing & Mitigating Health IT Patient Safety Risks"
- Evaluate health IT related patient safety events reported to the FDA
- Create laboratory safety checklist for assessment of laboratory data display

Center for Surveillance, Epidemiology, and Laboratory Services
Division of Laboratory Systems

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For more information: visit www.cdc.gov/labhit or email LabHIT@cdc.gov